



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/579,195

05/12/2006

Akiji Higuchi

4592-008

6704

22429

7590

09/18/2008

LOWE HAUPTMAN HAM & BERNER, LLP
1700 DIAGONAL ROAD
SUITE 300
ALEXANDRIA, VA 22314

EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,195	Applicant(s) HIGUCHI ET AL.	
	Examiner MARC S. ZIMMER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 7, 9, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/12/06, 06/21/07</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

It is suspected that the word "substituent" in the last line of claim 7 was intended to be "substituted". In any case, this instance of the term is redundant and should be removed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is not proper antecedent basis for the word board in claim 12 even though it is appreciated that the term "body" in claim 1 could encompass a board. For the purpose of evaluating the claims against the prior art, claim 12 will be treated as though a body had been recited.

Claim Analysis

Concerning claim 9, polyorganosilsesquioxanes are, themselves resins and, thus, for the purpose of evaluating this claim, it will be assumed that the resin must be something other than a silsesquioxane.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 12-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bagley et al., U.S. Patent # 4,835,057. Bagley discloses coating silica fibers designed for fiber optic applications (abstract) with an organosilsesquioxane adhering to the formula in column 2. The formula depicts a ladder-type polysilsesquioxane that would have a molecular weight consistent with that mandated by claim 3 in view of the value of the variable "n", which denotes the degree of polymerization of the polymer.

Concerning claim 4, the features of an IR spectrum of the prior art product will be the same if the polymers is the same. It should be noted that, like that of the claims, the prior art silsesquioxane is characterized as having a ladder structure and is derived using the same synthetic approach as is outlined in claim 6, i.e. hydrolysis/condensation of an alkyltrimethoxysilane. See the Example. Given that the reference contemplates employing a similar synthetic strategy and the depiction of the product coincides with the verbal description of the claimed silsesquioxane in claim 5, it is the Examiner's position that the prior art polymer is patentably indistinct and, therefore, will inherently give the claimed IR spectrum.

The property limitations of claims 12-14 are, likewise, inherently satisfied given that an equivalent polymer coating material is described by the prior art.

This rejection is made on the grounds that it is acknowledged that the drawn product of the coated fibers of the prior art is not expressly characterized as being flexible. However, it is the Examiner's position that flexible fiber optic cables are known and coating of these with the material advocated by Bagley would at least be obvious hence the claimed invention is at least obvious, if not anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagley et al., U.S. Patent # 4,835,057 in view of Walker, et al., U.S. Patent Application Serial No. 2006/0269202. The reference is silent as to the incorporation of colloidal silica but organosilicon resins generally have notoriously poor mechanical properties and the addition of silica as a means of improving them is practiced ubiquitously throughout the art. Of course, the skilled artisan will appreciate that the silica particles should be sufficiently small so as to not alter the light transmissibility characteristics of the coating material.

Walker, et al., U.S. Patent Application Serial No. 2006/0269202 verifies that this modification of Bagley would be obvious. See paragraph [0018] and [0050]. As for

Art Unit: 1796

claim 8, Walker, which also contemplates coating fiber optic substrates with silsesquioxane particles, mentions the incorporation of additives that enhance flexibility, which are ordinarily organic small molecules

Allowable Subject Matter

Claims 9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Kume et al., U.S. Patent # 5,780,142 is cited as being of interest for its cursory disclosure of organosilicon polymers having $\text{RSiO}_{3/2}$ units as coating materials for flexible substrates of which glass sheets are one type. Handa et al., U.S. Patent Application Publication No. 2005/0236985 essentially the same invention but does not constitute prior art. Burroughes et al., U.S. Patent # 6,592,969 is also of some interest for its description of organosilicon polymer-coated flexible glass substrates but silsesquioxane polymers are not fairly described.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC S. ZIMMER whose telephone number is (571)272-1096. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 12, 2008

/Marc S. Zimmer/
Primary Examiner, Art Unit 1796